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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

## Application No.

10/611,779

## Applicant(s)

CARROLL ET AL.

## Examiner

PHILIP C. LEE

## Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

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1. This action is responsive to the amendment and remarks filed on January 29, 2010.
2. Claims 1-53 are presented for examination.
3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

*Claim Rejections – 35 USC 103*

4. Claims 1-2, 10-12, 18-19, 27-29, 35-36, 44-46 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram et al, U.S. Patent 6,996,589 (hereinafter Jayaram) in view of Fagin et al, U.S. Patent 7,149,746 (hereinafter Fagin).
5. Jayaram was cited in the previous office action.
6. As per claims 1, 18, 35 and 52, Jayaram teaches the invention substantially as claimed comprising:

a data integration server coupled with one or more persistent data stores (system with the database conversion engine connected to the source database and target database)(fig. 1; col. 3, lines 33-52; col. 10, lines 56-63), the data integration server executing bulk data transfers between the one or more persistent data stores (col. 1, lines 6-9) according to an enterprise-level (e.g., billing industry or telecom

industry) business workflow (flow of business information such customer information between 320 and 310 of figure 3; abstract; col. 16, lines 1-12; col. 13, lines 6-8), the data integration server comprising:

a plurality of programmatic source interfaces (234, fig. 2, data filters with source extract format specification; col. 14, lines 20-22), each coupled with one or more source data stores (associated with source system 320, 225 of fig. 2), defined according to a common programmatic source interface specification (defined according to source extract format specification)(col. 11, lines 1-5), and exposed within the data integration server during the bulk data transfer (abstract; col. 16, lines 1-12); and

a plurality of programmatic target interfaces (270, fig. 2, data upload process consists of tools such as SQL loader (sqlldr; col. 18, lines 56-61) with target scheme specification and mapping specification), each coupled with one or more target data stores (associated with target system 310, fig. 2), defined according to a common programmatic target interface specification (defined according to target scheme specification and mapping specification)(col. 11, lines 5-11), and exposed within the data integration server during a bulk data transfer (abstract), wherein each of the plurality of programmatic source interfaces extracts from the one or more source data stores one or more data entities for loading into any one or more target data stores during the bulk data transfer (data filters used during bulk transfer to enable the system to receive/pull source data for loading into the target system)(col. 11, lines 5-11; col. 11, line 64-col. 12, line 10); and wherein each of the plurality of programmatic target interfaces loads into the one or more

target data stores the one or more data entities extracted from the one or more source data stores during the bulk data transfer (data filters used during bulk transfer to enable the system to receive/pull source data for loading into the target system)(col. 11, lines 5-11; col. 11, line 64-col. 12, line 10).

7. Jayaram does not teach a plurality of relational interfaces used as alternatives. Fagin teaches a plurality of relational interfaces used as alternatives to the plurality of programmatic source interfaces or the plurality of programmatic target interfaces (col. 4, lines 7-29; col. 13, lines 5-22).
8. Because Jayaram and Fagin teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of alternative relational interfaces of Fagin's system to improve similar method of interfacing systems for data transfer in Jayaram's system in the same way. By using the known technique of alternative relational interfaces, it would allow Jayaram's system to provide alternative mappings for interfacing transferred data between the systems.
9. As per claims 2, 19, and 36, Jayaram and Fagin teach the invention substantially as claimed in claims 1, 18, and 35 above. Jayaram further teach the data integration server exposes bulk data transfer operations as services to applications or other systems (col. 10, lines 42-49) (bulk data conversion and transfer is performed for the source system and target system)within an enterprise-level infrastructure (e.g., billing industry or

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telecom industry infrastructure) and executes a bulk data transfer operation in response to a request from such an application or other system (col. 10, lines 58-63) (instructions such as scheduling instructions for performing the conversion and transfer).

10. As per claims 10, 27, and 44, Jayaram and Fagin teach the invention substantially as claimed in claims 1, 18, and 35 above. Jayaram further teach a particular data store is a source data store or a target data store for a particular bulk data transfer depending on whether data entities are extracted from the particular data store or loaded into the particular data store during the particular bulk data transfer (inherent in col. 2, lines 15-20) (system may be source or target depending on whether information is from (i.e., extracted) one system into (i.e., loaded) into another system).

11. As per claims 11, 28, and 45, Jayaram and Fagin teach the invention substantially as claimed in claims 1, 18, and 35 above. Jayaram further teach loading data entities comprises inserting, updating, or deleting data entities (col. 11, lines 1-11) (uploading data must comprises inserting data into a target system).

12. As per claims 12, 29, and 46, Jayaram and Fagin teach the invention substantially as claimed in claims 1, 18, and 35 above. Jayaram further teach wherein each of the plurality of programmatic source interfaces and the plurality of programmatic target interfaces comprise: one or more resources representing data entities contained in the one or more data stores are defined (col. 14, lines 18-22) (data filter and data upload comprise source extract format specification, mapping specification and target scheme

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specification, representing the format of data); and the data integration server, in response to a request to execute a bulk data transfer involving one or more resources contained in one or more data stores (col. 10, lines 56-63) (instructions served to the system for executing of schedule conversion and uploading must include request to execute), creates each programmatic interface within which at least one of the resources is defined (in response to conversion, generate source extract format specification within which format is defined) (col. 14, lines 26-28).

13. Claims 16-17, 33-34, 50-51 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram and Fagin in view of Bond et al, U.S. Patent Application Publication 2001/0008023 (hereinafter Bond).

14. As per claims 16, 33, and 50, although Jayaram teaches one or more transformation interfaces exposed within the data integration server (col. 10, lines 64-67), each transformation interface: comprising one or more programmatic interfaces defined within the transformation interface (col. 16, lines 24-26); comprising custom transformation logic to be applied to data entities extracted from one or more source data stores in a bulk data transfer, using one or more of the plurality of programmatic source interfaces (col. 16, lines 30-41), before the extracted data entities are loaded into one or more target data stores in the bulk data transfer, using one or more of the plurality of programmatic target interfaces (col. 16, lines 30-41); and the data integration server is further configured to, in connection with creating the programmatic interfaces, create each transformation interface within which at least one of the programmatic interfaces is

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defined for application of the associated custom transformation logic in the bulk data transfer (col. 16, lines 24-41), however, Jayaram and Fagin do not specifically teach isolating transformation logic from defined programmatic interfaces. Bond teaches isolating transformation logic (240, fig. 2) from defined programmatic interfaces (251, 253, fig. 2) ([0021]). Because Jayaram, Fagin and Bond teach method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of isolating transformation logic from defined programmatic interfaces in Bond's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the known technique of isolating transformation logic from defined programmatic interfaces, it would allow Jayaram's and Fagin's system to easily develop segments of codes separately for the transformation logic and programmatic interfaces in a complex software system.

15. As per claims 17, 34, and 51, Jayaram, Fagin and Bond teach the invention substantially as claimed in claim 16, 33, and 50 above. Jayaram further teach a controller (inherently comprised) supported within the data integration server to use a transformation interface in executing an individual bulk data transfer without using a commercially available Extract-Transform-Load (ETL) tool in connection with the bulk data transfer (col. 10, lines 24-67) (note that ETL is not used in the conversion engine).

16. As per claim 53, it is rejected for the same reason as claims 1, 2, 16, and 17 above.



17. Claims 3, 20 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram and Fagin in view of Shannon et al, U.S. Patent Application Publication 2002/0046301 (hereinafter Shannon).

18. Shannon was cited in the previous office action.

19. As per claims 3, 20, and 37, Jayaram and Fagin do not teach Java interfaces. Shannon teaches Java interfaces ([0031] and claim 5).

20. Because Jayaram, Fagin and Shannon teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of JAVA interface of Shannon's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the known technique of JAVA interface, it would allow Jayaram's and Fagin's system to map transferred data between the systems.

21. Claims 4-6, 8, 21-23, 25, 38-40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram and Fagin in view of Casagrande et al, U.S. Patent 6,381,709 (hereinafter Casagrande).

22. Casagrande was cited in the previous office action.

23. As per claims 4, 21, and 38, Jayaram and Fagin teach the invention substantially as claimed in claim 1 above. Although Jayaram teaches a programmatic interface is exposed within the data integration server supporting bulk data transfers (col. 11, lines 1-5); and the data integration server: creates the programmatic interface to extract the data from or loading of the data into the data store (col. 14, lines 26-28); and for data extraction, as the programmatic source interface produces the data extracted from the data store, sends the outgoing data; or for data loading, as the data arrives, sends the incoming data to the programmatic target interface for loading into the data store (col. 11, lines 1-11), however, Jayaram and Fagin do not teach industry standard interface and industry standard protocol. Casagrande teaches an interface supporting data transfer according to an industry standard protocol (fig. 4, col. 8, lines 60-67); receives a request from a client indicating that the client is extracting data from or loading data into a data store in accordance with the industry standard protocol (col. 3, lines 48-51); and sends the outgoing data to the client in accordance with the industry standard protocol (col. 3, lines 1-4).

24. Because Jayaram, Fagin and Casagrande teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of FTP interface of transferring data in Casagrande's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the

known technique of FTP interface, it would allow Jayaram's and Fagin's system to exchange data between systems on a network.

25. As per claims 5, 22, and 39, Jayaram, Fagin and Casagrande teach the invention substantially as claimed in claims 4, 21, and 38 above. Jayaram further teach the data integration server allows a client supporting an industry standard protocol for bulk data transfers to perform bulk data transfers with respect to an existing data store using a programmatic interface whether or not the existing data store or an associated existing application itself supports bulk data transfers in accordance with the industry standard protocol (col. 10, lines 43-63; col. 11, lines 23-27).

26. As per claims 6, 23, and 40, Jayaram and Fagin teach the invention substantially as claimed in claim 1 above. Although Jayaram teaches a programmatic source interface is exposed within the data integration server supporting bulk data transfers (col. 11, lines 1-5); and the data integration server: creates the programmatic source interface to extract of the data from the one or more source data store (col. 14, lines 26-28); and as the programmatic source interface produces the data extracted from the one or more source data store, sends the outgoing data (col. 11, lines 1-11), however, Jayaram and Fagin do not teach industry standard File Transfer Protocol (FTP) interface and FTP industry standard protocol. Casagrande teaches a FTP interface supporting data transfer according to an FTP industry standard protocol (fig. 4, col. 8, lines 60-67); and allows an FTP client to open an FTP connection informing the data integration server that the FTP client is downloading a stream of data from the corresponding source data store (col. 6, lines 10-

15; col. 9, lines 58-60); and as the interface produces the stream of data extracted from the one or more source data stores, sends the outgoing stream of data to the FTP client in accordance with FTP (fig. 4, col. 3, lines 1-4).

27. Because Jayaram, Fagin and Casagrande teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of FTP interface of transferring data in Casagrande's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the known technique of FTP interface, it would allow Jayaram's and Fagin's system to exchange data between systems on a network.

28. As per claims 8, 25, and 42, Jayaram and Fagin teach the invention substantially as claimed in claim 1 above. Although Jayaram teaches a programmatic source interface is exposed within the data integration server supporting bulk data transfers (col. 11, lines 1-5); and the data integration server: creates the programmatic source interface to enable loading of the data into the one or more source data store (col. 14, lines 26-28); and as the data arrives, sends the incoming data to the programmatic target interface for loading into the one or more target data stores (col. 11, lines 1-11), however, Jayaram and Fagin do not teach industry standard File Transfer Protocol (FTP) interface and FTP industry standard protocol. Casagrande teaches a FTP interface supporting data transfer according to an FTP industry standard protocol (fig. 4, col. 8, lines 60-67); and allows an FTP client to open an FTP connection informing the data integration server that the FTP client is

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uploading a stream of data to the one or more target data store (col. 6, lines 10-15; col. 9, lines 58-60); and as the stream of data arrives from the FTP client in accordance with FTP, sends the outgoing stream of data into the data store (fig. 4, col. 3, lines 1-4) (i.e., the server of fig. 4 is interpreted as the FTP client and FTP client 12 and 24 of fig. 4 is the interpreted as the data store).

29. Because Jayaram, Fagin and Casagrande teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of FTP interface of transferring data in Casagrande's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the known technique of FTP interface, it would allow Jayaram's and Fagin's system to exchange data between systems on a network.

30. Claims 13-15, 30-32 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram and Fagin in view of Walsh et al, U.S. Patent Application Publication 2003/0233249 (hereinafter Walsh).

31. Walsh was cited in the previous office action.

32. As per claims 13, 30, and 47, Jayaram and Fagin teach the invention substantially as claimed in claims 1, 18, and 35 above. Although Jayaram teach connect to data stores (fig. 1), whether or not the tool is compatible with these data stores, using the

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programmatic interfaces to extract data entities from and load data entities into these data stores (col. 11, lines 1-11), however, Jayaram and Fagin do not teach ETL tool. Walsh teaches connect directly to data stores (fig. 1) with which the ETL tool is compatible to extract data entities directly from and load data entities directly into these data stores ([0092]).

33. Because Jayaram, Fagin and Walsh teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use known technique of ETL tool of transferring data in Walsh's system to improve similar method of interfacing systems for data transfer in Jayaram's and Fagin's system in the same way. By using the known technique of ETL tool, it would allow Jayaram's and Fagin's system to exchange data between systems on a network.

34. As per claims 14, 31, and 48, Jayaram, Fagin and Walsh teach the invention as claimed in claims 13, 30, and 47 above. Although Jayaram teach the data integration server uses programmatic interfaces to support compatibility between any one or more data stores (col. 2, lines 56-60), however, Jayaram, Fagin and Walsh do not teach to support compatibility between any commercially available ETL tool. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to support ETL tool or any type of tools for the data stores in order to provide a data store independent system allowing data conversion from any source data stores into any target data stores.

35. As per claims 15, 32, and 49, Jayaram, Fagin and Walsh teach the invention as claimed in claims 14, 31, and 48 above. Jayaram further teach the data integration server supports a controller to execute individual bulk data transfers using programmatic interfaces where either: an Extract-Transform-Load (ETL) tool is not present (col. 3, lines 16-24) (i.e., ETL is not present in the conversion engine); or an ETL tool is present but its capabilities are not needed to transform data entities extracted from one or more source data stores, using one or more of the plurality of programmatic source interfaces, before the extracted data entities are loaded into one or more target data stores, using one or more of the plurality of programmatic target interfaces, because physical database schemas of the source and target data stores are at least substantially similar.

36. Claims 7, 9, 24, 26, 41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaram, Fagin and Casagrande in view of Walsh.

37. As per claims 7, 9, 24, 26, 41, and 43, Jayaram, Fagin and Casagrande teach the invention substantially as claimed in claims 6, 8, 23, 25, 40, and 42 above. Jayaram and Casagrande do not teach Extract-Transform-Load (ETL) tool. Walsh teaches a commercially available Extract-Transform-Load (ETL) tool supported within the data integration server ([0089], [0092]).

38. Because Jayaram, Fagin, Casagrande and Walsh teach similar method of interfacing systems for data transfer, it would have been obvious to one having ordinary

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skill in the art at the time of the invention was made to use known technique of ETL tool of transferring data in Walsh's system to improve similar method of interfacing systems for data transfer in Jayaram's, Fagin's and Casagrande's systems in the same way. By using the known technique of ETL tool, it would allow Jayaram's, Fagin's and Casagrande's systems to exchange data between systems on a network.

39. Applicant's arguments with respect to claims 1-53, filed 1/29/10, have been fully considered but they are not persuasive.

40. In the remark, applicant argued that:

- (1) Jayaram fails to teach a plurality of relational interfaces used as alternatives to the plurality of programmatic source interfaces or the plurality of programmatic target interfaces.
- (2) The office action fails to establish a prima facie case of obviousness based on the "Examination Guidelines for Determining Obviousness under 35 U.S.C. 103 in view of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.
- (3) The office action has not shown the factual findings necessary to establish obviousness or even an explanation to support the obviousness rejection based on the proposed combination of Jayaram, Shannon, Casagrande, and Walsh.



(4) Office action fails to provide an indication of the level of ordinary skill.

(5) The Office action fails to explain why the difference between the combination of Jayaram, Shannon, Casagrande, Walsh, and the claimed invention would have been obvious to one of ordinary skill in the art.

(6) The office action does not adequately provide clear articulation of the reasons why applicants claimed invention would have been obvious.

41. In response to points (1), applicant's argument has been moot in view of new ground of rejection.

42. In response to points (2)-(6), applicant's argument has been considered and addressed to in the previous office action mailed on 10/29/09.

43. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571) 272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip C Lee/

Primary Examiner, Art Unit 2448

